

- Group V: Claim(s) 39-45, drawn to a kit for performing electrophoresis on a sample.
- Group VI: Claim(s) 46, drawn to a method of solubilizing a small molecule.
- Group VII: Claim(s) 47, drawn to a method of regenerating a liquid chromatography column.
- Group VIII: Claim(s) 48-51, drawn to a method for analyzing a small molecule contained in a cell.

Applicants respectfully traverse the requirements for restriction and election, and submit that the requirements are improper. First, Applicants assert that the subject matter of these groups represent different embodiments of a single inventive concept for which a single patent should issue. The pending claims represent an intricate web of knowledge, continuity of effort, and consequences of a single invention, which merit examination of all of these claims in a single application.

More particularly, a single, searchable, unifying aspect links all of the claims. This single, searchable, unifying aspect is the group of destructible surfactants represented by Formula I, and their use in analyzing small molecules contained in samples. The instant specification teaches the novel application of destructible surfactants of Formula I for analyzing (e.g., solubilizing, analyzing, separating, isolating, purifying, detecting and/or characterizing) small molecules in that, for example, detection techniques are significantly and surprisingly greater in the presence of the surfactants of the invention than in the presence of SDS at similar concentrations, and that the degradation products of the surfactant can be readily and usefully removed after subjection to an acidic environment. See, for example, the specification at page 4, line 31 through page 5, line 10.

In fact, on page 2 of the Office Action, the Examiner has clearly admitted that “the common technical feature of all the Groups is the surfactant.” However, the Office Action suggests that the “same surfactant is taught in Piasecki (J of Surfactants and Detergents) entitled ‘Synthesis and Surface Properties of Chemodegradable Anionic

Surfactants' which teaches the same surfactant compounds as presently claimed." In this respect, Applicants respectfully remind the Examiner that the claims of the present application are not directed to compounds *per se*, but rather the methods of use of these compounds and kits related thereto. In contrast, Piasecki investigates surface properties of (2-n-alkyl-1,3-dioxanyl-5-yl) sulfates after convenient synthesis from previously published intermediates. Accordingly, ***Piasecki does not teach or suggest use of these (or any surfactants) for analysis of a small molecule, or kits to affect same.***

Moreover, Applicants respectfully disagree with the Examiner's suggestion that the same surfactant is taught by the cited reference. In particular, the compounds described as useful in the present invention include five-, six-, and seven-membered rings, which may be substituted by $-\text{OSO}_3$, $-\text{R}_4\text{OSO}_3^-$, $-\text{R}_4\text{OR}_5\text{SO}_3^-$, or $-\text{OR}_5\text{SO}_3^-$. As such, Piasecki clearly does not disclose the **same** surfactant as represented by Formula I, nor does it disclose the subgenus formulae or species that are recited in the presently pending claims, for example, in claims 17 and 23-25 (which fall within the genus of Formula I).

The pending claims all share a common, novel special technical feature, and as such the restriction requirement is improper and should be withdrawn. Therefore, Applicants respectfully request withdrawal of the restriction requirement, that all groups be rejoined, and that all pending claims be examined on their merits. At the very least, Applicants request that Groups I, IV, V, and VIII be rejoined, in that they clearly and explicitly represent a continuity of effort and consequences of a **single** invention, particularly emphasized by the language recited therein, *i.e.*, all explicitly comprise an analysis of a small molecule or a kit for performing same.

Second, Applicants submit that a sufficient search and examination with respect to the subject matter of all claims can be made without serious burden. As the M.P.E.P. states:

If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions.

M.P.E.P. § 803 (8th ed., Rev. No. 2, May 2004).

That is, even if the above-enumerated groups of claims are drawn to distinct inventions, the Examiner must still examine the entire application on the merits because doing so will not result in a serious burden. Applicants submit that it would not be a serious burden on the Examiner to examine all the pending claims, given the robust and extensive computerized search engines and databases at the Examiner's disposal coupled with the fact that the search can be focused on the single, searchable, unifying aspect that links all of the claims, *i.e.*, surfactants of Formula I, as identified above.

Furthermore, it is Applicants' assertion that Formula I is sufficiently simple in structure and substitution, and the number of compounds within the Markush group is sufficiently few in number that a search and examination of the entire claim can be made without serious burden in accordance with M.P.E.P. § 803.02. As such, Applicants respectfully suggest that the examiner must examine all the members of the Markush group of Formula I on the merits, regardless of whether or not they are directed to independent and distinct inventions. Applicants further assert that Formula I contains a substantial structural feature that is essential to the common utility claimed, which, as noted above, is the unifying aspect that links all of the claims. This substantial structural feature is not only easily searchable, but also provides the basis for unity of invention with respect to the method-of-use claims and kit claims presently pending. As such, an election of species is not only unnecessary, but also improper. Accordingly, Applicants respectfully request withdrawal of the requirement for election of species.

In contrast, the Office indicates that the Applicants are "required to elect a specific compound, to which the elected invention will be examined on the merits as drawn to..." The Office Action further indicates that "[t]his requirement is not to be taken

as an election of species, but rather as an election of a single invention, since each compound is assumed to be a patentably distinct invention, in the absence of evidence to the contrary.” Applicants respectfully disagree with this statement, which is in clear contradiction to M.P.E.P. § 803.02, noted above regarding Markush claims, and M.P.E.P. § 809.02(a) which indicates that “the claims shall be restricted [to the elected species] ***if no generic claim is finally found to be allowable (emphasis added).***”

In this regard, Applicants respectfully invite the Examiner’s attention to M.P.E.P. § 803.02, which discusses the proper method of analysis involved in determining if election requirement and the accompanying searching process (a relevant portion of which is reproduced below for convenience):

As an example, in the case of an application with a Markush-type claim drawn to the compound C-R, wherein R is a radical selected from the group consisting of A, B, C, D, and E, the examiner may require a provisional election of a single species, CA, CB, CC, CD, or CE. The Markush-type claim would then be examined fully with respect to the elected species and any species considered to be clearly unpatentable over the elected species. If on examination the elected species is found to be anticipated or rendered obvious by prior art, the Markush-type claim and claims to the elected species shall be rejected, and claims to the nonelected species would be held withdrawn from further consideration. As in the prevailing practice, a second action on the rejected claims would be made final.

On the other hand, should no prior art be found that anticipates or renders obvious the elected species, the search of the Markush-type claim will be extended. If prior art is then found that anticipates or renders obvious the Markush-type claim with respect to a *nonelected species*, the Markush-type claim shall be rejected and claims to the nonelected species held withdrawn from further consideration. The prior art search, however, will not be extended unnecessarily to cover all nonelected species. Should applicant, in response to this rejection of the Markush-type claim, overcome the rejection, as by amending the Markush-type claim to exclude the species anticipated or rendered obvious by the prior art, the amended Markush-type claim will be reexamined. The prior art search will be extended to the extent necessary to determine patentability of the Markush-type claim. In the event prior art is found during the reexamination that anticipates or renders obvious the amended Markush-type claim, the claim will be rejected and the

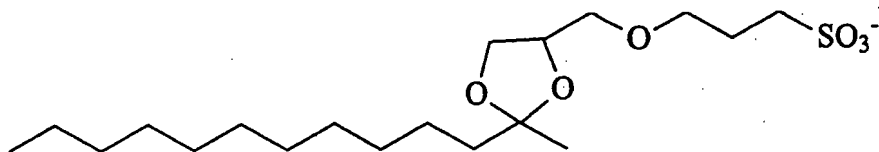
action made final. Amendments submitted after the final rejection further restricting the scope of the claim may be denied entry.

In no way does this passage indicate that the election of species is to be construed as an election of invention, nor that in the absence of evidence to the contrary each compound that falls within a Markush-type claim is assumed to be a patentably distinct invention from any other compound that falls with the Markush-type claim, (the very notion of which is completely add odds with the very meaning of a Markush group). Accordingly, if the Examiner has not found persuasive the arguments presented herein in support of Applicants' request to withdraw the requirement for election, Applicants at least request reconsideration of the species election on the basis of the proper analysis noted above.

In view of the foregoing, and further in consideration of efficiency and cost savings to Applicants and the Patent Office, Applicants respectfully request that the requirement for restriction and election be withdrawn and that all the pending claims be rejoined and examined in the instant application. At the very least, Applicants again request that Groups I, IV, V, and VIII be rejoined, in that they clearly and explicitly represent a continuity of effort and consequences of a **single** invention, particularly emphasized by the language recited therein, *i.e.*, all explicitly comprise an analysis of a small molecule or a kit for performing same. Applicants also specifically argue that a sufficient search and examination with respect to the subject matter of these groups can be made without serious burden.

However, in order to comply with the requirements set forth in the Office Action and in order to expedite prosecution, Applicants hereby provisionally elect, subject to the foregoing traverse, Group I, claims 1-16, drawn to a method for analysis of a small molecule. Furthermore, in order to comply with the requirements set forth in the Office

Action, Applicants provisionally elect the following species, subject to the foregoing traverse:



support for which may be found in the specification and claims as originally filed, for example, at least on page 14, at the bottom of the page. Applicants assert this species reads on all the claims of Group I, *i.e.*, claims 1-16.

Applicants further request any extensions of time necessary to respond to this Office Action. Please charge our Deposit Account No. 04-1105 for this fee, and any additional fee(s) due with this response.

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Respectfully submitted,

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